

## CLAIMS

1. A substrate processing system comprising:
  - a gas supply source for supplying a process gas containing a reactive
  - 5 substance;
  - a reservoir tank connected to said gas supply source for reserving said process gas;
  - a reactor for exposing a substrate placed therein to said process gas;
  - a first circulation pipe for introducing the process gas inside said reactor
  - 10 into said reservoir tank;
  - a second circulation pipe for introducing at least part of the process gas in said reservoir tank into said reactor; and
  - a flow regulating valve disposed in said second circulation pipe for regulating the amount of process gas to be introduced into said reactor.
- 15 2. The substrate processing system of Claim 1, further comprising a pump for drawing said process gas from said reactor and introducing it into said reservoir tank through said first circulation pipe.
3. The substrate processing system of Claim 1 or 2, further comprising a
- 20 second gas supply source for supplying a second process gas to said reactor such that the second process gas bypasses said reservoir tank, said second process gas containing a reactive substance different from that contained in said first process gas.